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| 10/713,066 | 11/17/2003 | Kia Silverbrook | ZG173US | 9918 |

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SILVERBROOK RESEARCH PTY LTD
393 DARLING STREET
BALMAIN, 2041
AUSTRALIA

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| EXAMINER |
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HSIEH, SHIH WEN

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| ART UNIT | PAPER NUMBER |
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2861

DATE MAILED: 05/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/713,066

Applicant(s)

SILVERBROOK, KIA

Examiner

Shih-wen Hsieh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claim 2 is objected to because of the following informalities:

This claim depends directly on claim 1. Claim 1 recites "a capping arrangement". This capping arrangement including "a sealing **structure**". Claim 2 recites "the sealing arrangement". Therefore, based on the discussion immediately before, this sealing arrangement should be "sealing structure". Please be advised.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 and 2 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. US

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6,604,810 B1 ('810). Although the conflicting claims are not identical, they are not patentably distinct from each other because both cases deal with print head with chips containing micro-electromechanical nozzles, nozzle guard, rotary platen, etc. Below is a table of comparison between claims to reveal their similarities:

| <u>10/713,066</u> | <u>6,604,810 B1</u> |
|--|---|
| <p>1. An inkjet print engine assembly, comprising: an inkjet print head assembly, comprising: (a) an ink distribution assembly that is in fluid communication with an ink supply; (b) at least one print head that is mounted on the ink distribution assembly, the, or each, print head having at least one print head chip that incorporates a plurality of micro-electromechanical nozzles; and (c) at least one nozzle guard, wherein each of the at least one nozzle guards defines a plurality of micro-apertures, each of the at least one nozzle guards being mounted adjacent one or more of the at least one print head chips such that each micro-aperture is in fluid communication with a corresponding nozzle so that ink ejected from the nozzles passes through the respective corresponding micro-apertures; a rotary platen assembly that is mounted for rotation about an axis, the rotary platen assembly comprising: (d) an axially extending platen surface; and (e) an axially extending capping arrangement, the capping arrangement being disposed on the platen assembly at a position circumferentially spaced from the platen surface; and a drive</p> | <p>1. An inkjet print engine assembly that comprises a chassis; an inkjet print head assembly mounted on the chassis, the print head assembly comprising an ink distribution assembly that is in fluid communication with an ink supply; at least one print head that is mounted on the ink distribution assembly, the, or each, print head having at least one print head chip that incorporates a plurality of micro-electromechanical nozzles; and a plurality of nozzle guards, each nozzle guard being mounted on a respective print head chip and defining a plurality of micro-apertures, so that each micro-aperture is in fluid communication with a corresponding nozzle so that ink ejected from the nozzles passes through the respective corresponding micro-apertures; a rotary platen assembly that is rotationally mounted on the chassis, the rotary platen assembly defining a platen surface; a capping arrangement that is positioned on the platen assembly, circumferentially spaced with respect to the platen surface; and a displacement mechanism that is engaged with the platen assembly to rotate the platen assembly with respect to the chassis to bring either</p> |

| | |
|---|--|
| <p><u>mechanism</u> configured to rotate the platen assembly about its axis, thereby enabling the platen surface and the capping arrangement to selectively be moved into operative engagement with the print head assembly, the capping arrangement including <u>a sealing structure</u> that is shaped and dimensioned to engage the print head assembly in a region about the, or each, print head, so that the, or each, print head is sealed from the environment when the capping arrangement is in said operative condition, without the sealing structure being in contact with the micro apertures when the capping arrangement is in the operative position.</p> <p>2. An inkjet print engine assembly according to claim 1, the sealing arrangement being configured to engage a surface of the at least one nozzle guard.</p> | <p>the platen surface or the capping arrangement into operative engagement with the print head assembly, the capping arrangement including a capping member that is configured to engage the print head assembly so that the, or each, print head is covered by the capping member, the capping member including a sealing structure that is shaped and dimensioned to engage the print head assembly in a region about the, or each, print head, so that the, or each, print head is sealed from the environment when the capping arrangement is in said operative condition.</p> |
|---|--|

In regard to:

Claim 1:

All of the subject matters in the instant application such as: ink distribution assembly, chips, micro-electromechanical nozzles, nozzle guard(s), rotary platen, capping arrangement with a sealing structure and their functional limitations are obvious over those in patent ('810).

A drive mechanism to rotate the rotary platen in the instant application is the "displacement mechanism" in the patent ('810). Both of these two items perform the same function, although termed differently.

Claim 2:

This claim is rejected on the basis as set forth for claim 1 discussed above.

4. Claim 5 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. US 6,604,810 B1 ('810). Although the conflicting claims are not identical, they are not patentably distinct from each other because both cases deal with a linear displacement assembly, which relates to the rotary platen. Below is a table of comparison between these two claims to reveal their similarities:

| <u>10/713,066</u> | <u>6,604,810 B1</u> |
|--|--|
| 5. An inkjet print engine assembly according to claim 1, further including a linear displacement assembly configured to permit displacement of the platen assembly relative to the print head assembly, the displacement mechanism and the platen assembly being configured such that when the drive mechanism rotates the capping arrangement towards an operative position thereof, the linear displacement assembly operates to displace the platen assembly, and thereby the capping arrangement towards the print head assembly, such that the capping arrangement engages the print head assembly. | 2. An inkjet print engine assembly as claimed in claim 1, in which the displacement mechanism includes a linear displacement assembly positioned intermediate the platen assembly and the chassis to permit linear displacement of the platen assembly relative to the print head assembly, the displacement mechanism and the platen assembly being configured so that, when the capping arrangement rotates towards an operative condition, the linear displacement assembly operates to displace the capping arrangement linearly towards the print head assembly to engage the print head assembly and when the capping assembly rotates away from the operative condition, the capping arrangement is displaced linearly away from the print head assembly. |

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The subject matter: linear displacement assembly and its function are clear and obvious from one over the other from the table above.

5. Claim 6 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 3 of U.S. Patent No. US 6,604,810 B1 ('810). Although the conflicting claims are not identical, they are not patentably distinct from each other because both cases deal with a cam and a cam follower. Below is a table of comparison between these two claims to reveal their similarities:

| <u>10/713,066</u> | <u>6,604,810 B1</u> |
|---|--|
| 6. An inkjet print engine assembly according to claim 5, wherein the linear displacement assembly includes a cam mounted for rotation with the platen assembly and a cam follower positioned to cause, in conjunction with the cam, relative movement between the platen assembly and the inkjet print head assembly. | 3. An ink jet print engine assembly as claimed in claim 2, in which the linear displacement assembly includes a cam positioned on an end of the platen assembly and a sprung cam follower positioned on the chassis. |

The cam and the cam follower in the instant application are obvious over those in the patent ('810). The function of the cam and the cam follower used in these two cases are obvious to one of ordinary skill in the art.

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6. Claim 7 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 4 of U.S. Patent No. US 6,604,810 B1 ('810). Although the conflicting claims are not identical, they are not patentably distinct from each other because both cases deal with a guide. Below is a table of comparison between these two claims to reveal their similarities:

| <u>10/713,066</u> | <u>6,604,810 B1</u> |
|--|--|
| 7. An inkjet print engine assembly according to claim 6, wherein the linear displacement assembly further includes a guide, the platen assembly being mounted relative to the guide such that the platen assembly is constrained to linear movement towards and away from the print head assembly. | 4. An ink jet print engine assembly as claimed in claim 3, in which the linear displacement assembly further includes a linear guide assembly positioned on the chassis, the platen assembly being mounted to the linear guide assembly so that the platen assembly is constrained to linear movement towards and away from the print head assembly. |

The obvious for one over the other is clear from the table above.

7. Claim 8 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 5 of U.S. Patent No. US 6,604,810 B1 ('810). Although the conflicting claims are not identical, they are not patentably distinct from each other because both cases deal with a blotter. Below is a table of comparison between these two claims to reveal their similarities:

| <u>10/713,066</u> | <u>6,604,810 B1</u> |
|---|--|
| 8. An inkjet print engine assembly according to claim 1, wherein the platen assembly further includes an axially extending ink blotter circumferentially spaced from the platen surface and the capping assembly, the ink blotter being configured to perform a blotting operation on the print head assembly as the platen assembly is rotated by the drive means. | 5. An ink jet print engine assembly as claimed in claim 1, which includes an ink blotting assembly positioned on the platen assembly and being circumferentially spaced from the platen surface and the capping assembly to be displaceable towards and away from the print head assembly on rotation of the platen assembly to perform a blotting operation on the print head assembly. |

The obvious for one over the other is clear from the table above.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Silverbrook (US 6,604,810 B1).

The device of Silverbrook DIFFERS from claims 3 and 4 in that it does not teach:
wherein the capping arrangement includes an axially-extending absorbent member for absorbing ink from the micro-apertures or a surface of the at least one nozzle guard adjacent the micro-apertures (claim 3); and

wherein the absorbent member is a sponge (claim 4).

A absorbent member being disposed inside a capping arrangement is well known in the art, and sponge as an absorbent member is commonly used in an ink jet printer, refer to MPEP 2144.03, In re Malcolm, 129 F.2d 529, 54 USPQ 235 (CCPA 1942).

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Silverbrook to include an absorbent member in the form of a sponge in the capping arrangement as most of the capping arrangement using this approach for the purpose of holding ink ejected from the head.

10. Claims 9-13 are rejected under 35 U.S.C. 103(a) as being obvious over silverbrook (US Pat. No. 6,824,242 B1)('242).

The applied reference has a common inventor (Silverbrook) with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art only under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 103(a) might be overcome by: (1) a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not an invention "by another"; (2) a showing of a date of invention for the claimed subject matter of the application which corresponds to subject matter disclosed but not claimed in the reference, prior to the effective U.S. filing date of the reference under 37 CFR 1.131; or (3) an oath or declaration under 37 CFR 1.130 stating that the application and reference are currently owned by the same party and that the inventor named in the

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application is the prior inventor under 35 U.S.C. 104, together with a terminal disclaimer in accordance with 37 CFR 1.321(c). This rejection might also be overcome by showing that the reference is disqualified under 35 U.S.C. 103(c) as prior art in a rejection under 35 U.S.C. 103(a). See MPEP § 706.02(I)(1) and § 706.02(I)(2). Both cases deal with an air supply system, which supplies air to a space between the nozzle chips and the nozzle guard.

In regard to:

Claim 9:

The device of Silverbrook DIFFERS from claim 9 in that it does not teach:
air supply means for providing positive air pressure to a space between the nozzle guard and the nozzles during printing.

Silverbrook ('242) teaches an air inlet port (61, figs. 6, 9A) supplies air to a space between the nozzle guard and the nozzles during printing, refer to col. 5, lines 36-41; lines 58-60.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Silverbrook ('810) to include an air supply means as taught by Silverbrook ('242) for the purpose of preventing debris being deposited on the nozzles.

Claim 10:

The device of Silverbrook ('810) as modified in view of Silverbrook ('242)
DIFFERS from claim 10 in that it does not teach:

wherein each of the print modules has a corresponding one of the

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nozzle guards, and wherein each of the print modules and nozzle guards defines its own one of the spaces that is separate from the spaces defined by other pairs of nozzle guards and print modules.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to fabricate individual nozzle guard for each of the nozzle chips, since it has been held that constructing a formerly integral structure in various elements, in this case a number of nozzles guards, involves only routine skill in the art, refer to MPEP 2144.04 V C.

Claim 11:

An inkjet print engine according to claim 10, wherein the air supply means supplies positive air pressure to each of the spaces.

Rejection:

This claim is rejected on the basis as set forth for claims 9 and 10 discussed above.

Claim 12:

An inkjet print engine according to claim 1, wherein said plurality of nozzles are arranged in an array extending across an A4 pagewidth.

Rejection:

Nozzles arranged in an array extending across an A4 pagewidth is generally called a Page Width Array (PWA) or Full width Array (FWA) or print bar, and is well known in the art, refer to MPEP 2144.03, In re Malcolm, 129 F.2d 529, 54 USPQ 235

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(CCPA 1942). Or refer to Background of invention of Silverbrook ('242), col. 1, lines 8-11.

Claim 13:

The device of Silverbrook ('810) as modified in view of Silverbrook ('242)

DIFFERS from claim 13 in that it does not teach:

wherein, when the capping mechanism is in use to seal the print head, a sealing mechanism in fluid communication with the air supply means is operable to prevent ingress of external air to the nozzles.

Silverbrook ('242) teaches an air valve molding (66, figs. 7 and 8), which functions as a sealing mechanism of the instant application to seal the air supply supplies to the space(s) within the nozzle guard(s), refer to col. 7, line 54 to col. 8, line 14.

Therefore it would have been obvious to a person having ordinary skill in the art at the time the invention was made to modify the device of Silverbrook ('810) as modified in view of Silverbrook ('242) to include an air valve molding as further taught by Silverbrook ('242) for the purpose of controlling air supplied to the space within the nozzle guard(s).

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shih-wen Hsieh whose telephone number is 571-272-2256. The examiner can normally be reached on 7:30AM -5:00PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Talbott can be reached on 571-272-1934. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SHIH-WEN HSIEH
PRIMARY EXAMINER

S. Hsieh
Shih-wen Hsieh
Primary Examiner
Art Unit 2861

SWH

SWH

May 11, 2005